REMARKS/ARGUMENTS

Claim Amendments

The Applicant has amended claims 1, 3, 22, 36, and 42; claim 32 has been canceled. Support for the amendments is found in paragraphs [084] and [091]. Applicant respectfully submits no new matter has been added. Accordingly, claims 1-46 are pending in the application. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

Claim Rejections – 35 U.S.C. § 103 (a)

Claims 1-46 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee (US 6,539,225B1) in view of Tiedemann, Jr. et al, et al. (US 5,870,427A) and C. E. Perkins et al. "Route Optimization in Mobile IP", draft-ietf-mobileip-optim-08.txt (Feb. 25, 1999). Claim 32 has been canceled without prejudice. The Applicant respectfully traverses the rejection of these claims.

The present application discloses and claims a method for handing off a mobile node from an old sub-network router to a new sub-network router in an Internet Protocol based wireless access network and a respective wireless access network. In that regard a handoff starting time is obtained from a lower layer of the OSI (Open Systems Interconnection) model and information from a lower layer of the OSI model is used to notify the mobile node that a connection with the old sub-network router will be discarded within a predetermined amount of time. In accordance with the teachings of the present invention a new care-of address is obtained for the mobile node from the new sub-network router and in response to receiving the discarding notification, a request message is sent from the mobile node to a base node via the new sub-network router requesting a new binding. A new care-of address binding is then created in the base node, a reply message is issued from the base node to the mobile node via the new sub-network router indicating that the new care-of address binding has been created and a transfer of old care-of address data packets from the base node to the mobile node is synchronized.

The Lee reference appears to disclose a wireless call handoff with respect to deregistration of an old binding and creating a new binding. Lee discloses providing a seamless handover by providing an old and a new address binding in parallel during the handover procedure. As noted in the Detailed Action, column 4, lines 66-67 of the Lee reference describes a state of the art routing technique and is not related to obtaining any kind of timing information. There is no mention or teaching in the Lee reference regarding obtaining a handoff starting time from a lower layer and using information from a lower layer to notify a mobile terminal that an old connection will be discarded within a predetermined amount of time.

The Lee reference is cited for teaching deleting an old care-of address binding from the home agent and issuing a deregistration reply message from the home agent to the mobile node via the old sub-network indicating that the old care-of address binding has been deleted (see rejection of claim 3). The element at issue, from amended claim 1, is shown below.

> ...issuing two registration reply messages from the base node to the mobile node wherein a registration reply message is sent to the new care-of address via the new sub-network router indicating that the new care-of address binding has been created and a deregistration reply message is sent to the old care-of address via the old sub-network router notifying the mobile node that binding with the old care-of address has been removed (emphasis added)

The Applicant has reviewed the cited portion of Lee and respectfully disagrees with the interpretation of the content. The Applicant reads the passage that the home agent does not immediately terminate the old binding but continues to maintain both bindings and duplicates the communication content ... until the handoff procedure has completed and then the old foreign agent is deregistered by the home agent (Col.5, lines 36-43, Col. 5, lines 67- col. 6, lines1-3). The claim by the Applicant states that the old binding is deregistered using a deregistration reply message (paragraph [091]). There are two registration reply messages sent (one being a deregistration message) as indicated in the claim. The claim does not set a time between sending the first and second message. However, as noted in paragraph [091] the statement, "In response, the home agent or gateway foreign agent creates the new binding and sends two

registration reply messages to the mobile node..." indicates that the registration replies are sent either simultaneously or one soon after the other. In Lee, the statement that the old binding is continued until at least the handoff procedure has completed indicates that the messages are not sent simultaneously or one after the other. The advantage received from sending the two messages one after the other is that the handoff takes place quickly and because of the synchronization of the transfer, no data packets are lost. This being the case, the Lee reference lacks the limitation of sending two registration messages as described in paragraph [091].

The Tiedemann reference is cited for obtaining a handoff starting time. The cited portion of Tiedemann states that a command is received over the analog channel specifying an exact handoff time." (col 8, lines 43-47). The Applicant respectfully submits that an exact handoff time is different from a handoff starting time. As disclosed in the Tiedemann reference, the exact handoff time command is sent after the mobile station is instructed to begin time alignment (this is preliminary to the handoff command). (col. 8, lines 33-47) Tiedemann lacks the step of obtaining the starting time from a lower layer e.g., layer 2 of the OSI model (paragraph [086]).

The Lee reference and the Tiedemann both lack sending two messages, including a deregistration message (as described above) to the mobile node. Also, both Lee and Tiedemann lack the step of obtaining the handoff starting time from a lower layer complying with the OSI model. This being the case, the Applicant respectfully requests the withdrawal of the rejection of claim.
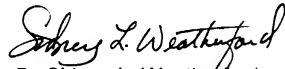
Claims 22 and 36 are analogous to claim 1 and contain similar limitations. The Applicant respectfully requests the withdrawal of the rejection of these amended claims. Claims 2-21, 23-35 and 37 -46 depend from the amended independent claims and recite further limitations in combination with the novel elements of the respective independent claims. The allowance of claims 1-31 and 33-46 is respectfully requested.

CONCLUSION

In view of the foregoing remarks, the Applicant believes all of the claims currently pending in the Application to be in a condition for allowance. The Applicant, therefore, respectfully requests that the Examiner withdraw all rejections and issue a Notice of Allowance for all pending claims.

The Applicant requests a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,

By Sidney L. Weatherford
Registration No. 45,602

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Ericsson Inc.
6300 Legacy Drive, M/S EVR 1-C-11
Plano, Texas 75024

(972) 583-8656
sidney.weatherford@ericsson.com